

We Claim:

1. A vacuum cleaner comprising:
 - a) a dirty air inlet and a source of suction to draw air containing particulate matter into the dirty air inlet and produce an air stream in the vacuum cleaner;
 - b) a first cyclonic cleaning stage comprising a cyclone having a first cyclonic cleaning stage inlet and a first cyclonic cleaning stage outlet;
 - c) a second cyclonic cleaning stage positioned in series with the first cyclonic cleaning stage, the second cyclonic cleaning stage comprising a plurality of second stage cyclones, each of the second stage cyclones having a second stage cyclone inlet and a second stage cyclone outlet; and,
 - d) a passage connecting the first cyclonic cleaning stage outlet and the second stage cyclone inlets, and the passage is configured to inhibit settling out of particulate matter from the air stream.
2. The vacuum cleaner as claimed in claim 1 wherein the second stage cyclones at least partially surround the passage.
3. The vacuum cleaner as claimed in 1 wherein the passage is at least partially defined by the second stage cyclones.
4. The vacuum cleaner as claimed in claim 1 wherein the passage has a cross sectional area which is approximately the same as the cross sectional area of the first cyclonic cleaning stage outlet.
5. The vacuum cleaner as claimed in claim 1 wherein the passage is substantially free of horizontal spaces that are transverse to the direction of fluid flow through the passage.

6. The vacuum cleaner as claimed in claim 1 wherein the passage is substantially free of any dead air spaces.

7. The vacuum cleaner as claimed in claim 1 wherein the passage is substantially free of regions that are adapted to separate particulate matter from the air stream.

8. The vacuum cleaner as claimed in claim 1 wherein the passage is defined by a single conduit.

9. A vacuum cleaner comprising:

a) a dirty air inlet and a source of suction to draw air containing particulate matter into the dirty air inlet and produce an air stream in the vacuum cleaner;

b) a first cyclonic cleaning stage comprising a cyclone having a first cyclonic cleaning stage inlet and a first cyclonic cleaning stage outlet;

c) a second cyclonic cleaning stage positioned in series with the first cyclonic cleaning stage, the second cyclonic cleaning stage comprising a plurality of second stage cyclones, each of the second stage cyclones having a second stage cyclone inlet and a second stage cyclone outlet; and,

d) a passage extending from the first cyclonic cleaning stage outlet to the second stage cyclone inlets, and the passage is substantially free of any dead air spaces.

10. The vacuum cleaner as claimed in claim 9 wherein the second stage cyclones at least partially surround the passage.

11. The vacuum cleaner as claimed in claim 9 wherein the passage is at least partially defined by the second stage cyclones.

12. The vacuum cleaner as claimed in claim 9 wherein the passage has a cross sectional area which is approximately the same as the cross sectional area of the first cyclonic cleaning stage outlet.

5 13. The vacuum cleaner as claimed in claim 9 wherein the passage is substantially free of horizontal spaces that are transverse to the direction of fluid flow through the passage.

14. The vacuum cleaner as claimed in claim 9 wherein the passage is substantially free of regions that are adapted to separate particulate matter from the air stream.

10 15. The vacuum cleaner as claimed in claim 9 wherein the passage is defined by a single conduit.

16. A vacuum cleaner comprising:
a) a dirty air inlet and a source of suction to draw air containing particulate matter into the dirty air inlet and produce an air stream in the vacuum cleaner;
15 b) a first cyclonic cleaning stage comprising a cyclone having a first cyclonic cleaning stage inlet and a first cyclonic cleaning stage outlet;
c) a second cyclonic cleaning stage positioned in series with the first cyclonic cleaning stage, the second cyclonic cleaning stage comprising a plurality of second stage cyclones, each of the second stage cyclones having a second stage cyclone inlet and a second stage cyclone outlet; and,
20 d) a conduit extending from the first cyclonic cleaning stage outlet to the second stage cyclone inlets.
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17. The vacuum cleaner as claimed in claim 16 wherein the second stage cyclones at least partially surround the passage.

18. The vacuum cleaner as claimed in claim 16 wherein the passage is at least partially defined by the second stage cyclones.

19. The vacuum cleaner as claimed in claim 16 wherein the passage does not increase in cross sectional area in a downstream direction.

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20. The vacuum cleaner as claimed in claim 16 wherein the passage has a cross sectional area which is approximately the same as the cross sectional area of the first cyclonic cleaning stage outlet.

21. The vacuum cleaner as claimed in claim 16 wherein the passage is substantially free of horizontal spaces that are transverse to the direction of fluid flow through the passage.

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22. The vacuum cleaner as claimed in claim 16 wherein the passage is substantially free of regions that are adapted to separate particulate matter from the air stream.

23. The vacuum cleaner as claimed in claim 16 wherein the passage is substantially free of any dead air spaces.

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